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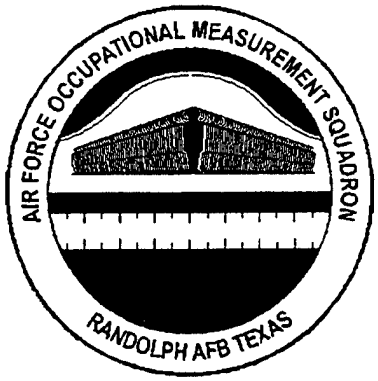

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

ELECTRONIC WARFARE SYSTEMS

AFSC 2A1X7

AFPT 90-2A1-056

OCTOBER 1996

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PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Electronic Warfare Systems career ladder (AFSC 2A1X7). Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products upon which this report is based are available for the use of operations and training officials.

The survey instrument was developed by Mr. James T. Duffy, Inventory Development Specialist, with computer programming support furnished by Mrs. Jeanie C. Guesman. Mr. Richard G. Ramos provided administrative support. 2Lt Joseph D. Dyer, Occupational Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved by Mr. Daniel E. Dreher, Chief, Airman Analysis Section, Occupational Analysis Flight, AF Occupational Measurement Squadron (AFOMS).

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to AFOMS, Attention: Chief, Occupational Analysis Flight (OMY), Randolph AFB Texas 78150-4449 (DSN 487-6623).

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SUMMARY OF RESULTS

1. *Survey Coverage*: The Electronic Warfare career ladder was surveyed to evaluate changes in the 2A1X7 career ladder and to obtain current task and equipment data for use in evaluating current training programs. Results are based on responses from 1,292 respondents (73 percent of the total personnel selected for survey). All major using commands are satisfactorily represented in the survey sample.

2. *Specialty Jobs:* Five clusters and four independent jobs were identified in the career ladder structure analysis. The career ladder structure is organized around the different electronic warfare systems which 2A1X7 airmen maintain. Of the technically oriented jobs, there is a core of tasks common to most incumbents. The AFMAN 36-2108 *Specialty Description* is complete and generally portrays the nature of the job.

3. *Career Ladder Progression*: Career ladder progression appears to be normal. Three-skill level personnel devote nearly all their time to technical activities. The 5-skill level jobs were also technically oriented, but, in addition, have a supervisory aspect. Seven-skill level personnel devote a large majority of their time to supervisory and management activities. There were no 9-skill level and CEM personnel studied in this analysis.

4. *Training Analysis*: Analysis of the Specialty Training Standard (STS) identified several areas which were not well supported by the data. There were also many tasks with high percent members performing which were not referenced in the STS. The Plan of Instruction (POI) was fairly well supported, with only five items which were not. There were more tasks not referenced to the POI, though all were general tasks.

5. *Job Satisfaction Analysis*: The 2A1X7 personnel report generally lower job satisfaction than a comparative peer group. Further, the job satisfaction responses of first-enlistment personnel are lower than the previous survey, while senior level incumbents report slightly higher scores than the 1991 occupational survey report (OSR). When examining job satisfaction within the jobs of the current study, Ground Maintenance was much lower than any other job.

6. *Implications*: The current AFSC 2A1X7 career ladder structure reflects a great deal of diversity within the career ladder. The career ladder structure is fairly similar to that found in the previous OSR. Career ladder progression is normal, showing a movement away from the technical tasks common at the lower skill levels as the incumbents move toward the 7-skill level. AFMAN 36-2108 *Specialty Descriptions* very broadly describe the maintenance jobs. The STS is in serious need of review because of many unsupported areas, while the POI appears to need only slight modifications. Job satisfaction is a cause for concern, as first-enlistment personnel report much lower satisfaction than a comparative sample. This cause for concern is made more evident by a trend of lower job satisfaction scores versus the last survey.

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OCCUPATIONAL SURVEY REPORT (OSR)
ELECTRONIC WARFARE SYSTEMS CAREER LADDER
(AFSC 2A1X7)

INTRODUCTION

This is a report of an occupational survey of the Electronic Warfare Systems (EWS) career ladder conducted by the Occupational Analysis Flight, Air Force Occupational Measurement Squadron. The survey was conducted to obtain current job and task data. Data collected through this OSR will be utilized by training development personnel to review courses and related training documents in light of equipment and utilization changes which have occurred since the last OSR. The career ladder was last surveyed as AFSC 456X1A/B (EWS). The results are summarized in an OSR dated April 1991.

Background

As described in the AFMAN 36-2108 *Specialty Description* for AFSC 2A1X7, dated 31 October 1994, members supervise and perform inspections, installations, and maintenance on avionic electronic warfare (EW) intercept and analysis equipment, and special purpose support equipment (SE). Members perform and supervise maintenance on avionics EW, intercept, and analysis equipment. Personnel of the career field isolate malfunctions by inspections, voltage checks, resistance measurements, waveform observations, and other tests using SE, built in test equipment, or computer aided diagnostics and manuals. Personnel adjust or replace defective units or components, repair avionic EW, intercept, and analysis equipment. EW personnel install and remove internally and externally mounted nonmunitions avionic EW, intercept and analysis equipment.

Upon completion of basic military training, students are assigned to Keesler AFB, where they attend the electronic principles course and the basic EW equipment skills course, followed by either a fighter or bomber element. The basic EWS course (E3AQR2A137-000) covers radar types and fundamental operation, the use of chaff and flares as electronic countermeasures and operational capabilities and functional description of radar warning receivers, infrared receivers, infrared transmitters, and radio frequency transmitters, and is the common core of technical training.

After a successful passing score, the students are classified according to their PCS assignment; fighter aircraft or not. Those assigned to what would classify as a fighter base progress to the -004 course.

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The -004, or fighter element, teaches use of publications and theory followed by a laboratory portion that encompasses performance checks, adjustments, troubleshooting, and repair procedures of pods. CTK inventory and the securing of classified data are also taught in the fighter element.

For students not going to a fighter assignment, there is the -005 element. The -005 course covers the panoramic receiver system theory of operation, functional description and system analysis. Students receive hands-on training completing system performance checks, adjustments, and troubleshooting. Operation of the test station which accompanies the receiver system is also covered. The equipment used to teach these principles are the ALR-20 Panoramic Receiver and the ALM-60 Test Station. This block also consists of basic automated electronic countermeasures system and test equipment theory. Students perform flightline checkouts and learn data transfers and are also taught how to troubleshoot and perform fault isolations on various systems.

The course length for either fighter or bomber track is 127.75 days (includes 42 days for E3AQR2A137-000).

Entry into the career ladder currently requires an Armed Forces Vocational Aptitude Battery electronic score of 67, and the strength factor of N (weight lift of 100 lbs) must be met or exceeded.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) AFPT 90-2A1-056, dated April 1995. The Inventory Developer prepared a tentative task list by reviewing pertinent career ladder publications, directives, and the previous JI and OSR. This task list was further refined and validated through personal interviews with 66 subject-matter experts representing a variety of major commands (MAJCOMs) at the following locations:

BASE	UNIT
Keesler AFB MS	336 TRS/TTOT
Hurlburt FLD FL	HQ AFSOC/LGMA
Shaw AFB SC	20 CRS/CRV
Langley AFB VA	10 IS/LG
Pope AFB NC	23 MS/LGMVE
Charleston AFB SC	437 AGS/LGAME
Barksdale AFB LA	2 MNX/LGMA
Beale AFB CA	9 MS/MA
Davis-Monthan AFB AZ	43 ECS/DOV
Cannon AFB NM	27 CRS/CRV
Offutt AFB NE	97 IS/LGM

The resulting JI contained a comprehensive listing of 1,111 tasks grouped under 19 duty headings with a background section requesting such information as grade, MAJCOM, job title, time in present job, time in service, job satisfaction, functional area, organizational level, training completed, and equipment and forms used.

Survey Administration

Base Training Offices at operational bases worldwide administered the inventory to 1,776 DAFSC 2A1X7 personnel holding a 3-, 5-, or 7-skill level. Personnel excluded from taking the survey comprised the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time inventories were administered to the field; and (4) personnel in their job less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Personnel Center, Randolph AFB TX.

Each individual who completed the inventory first filled in an identification and biographical information section and then checked each task performed in the member's current job. After checking all tasks performed, respondents then rated each task on a 9-point scale showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of the member's time spent on the job. First, the ratings are summed. Each task rating is then divided by the sum of task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

The final AFSC 2A1X7 survey sample includes responses from 1,292 job incumbents. Table 1 reflects the distribution, by MAJCOM, of assigned AFSC 2A1X7 personnel. As of May 1995, there were 1,910 members assigned to the career ladder. Seventy-three percent of the survey participants made up the survey sample population. Table 2 reflects the distribution by paygrade. The survey sample represents a good reflection of the assigned population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 2A1X7 personnel (generally E-6 or E-7 craftsmen) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). These booklets were processed separately from the JIs. This information is used in a number of different analyses discussed in more detail within the report.

Training Emphasis (TE). TE is a rating of the amount of emphasis that should be placed on tasks in entry-level training. The 86 senior AFSC 2A1X7 NCOs who completed the TE booklet were asked to select tasks they felt required some sort of structured training for entry-level personnel and then indicate how much training emphasis these tasks should receive, from 1 (extremely low emphasis) to 9 (extremely high emphasis). Structured training is defined as training provided by resident technical schools, field training detachments, formal on-the-job training (OJT), or any other organized training method. Due primarily to the diverse nature of the career ladder, the interrater reliability was found to be unacceptably low. Therefore, no TE data are reported in this OSR.

Task Difficulty (TD). Task difficulty is an estimate of the amount of time the average airman needs to learn to perform a task satisfactorily. The 61 senior NCOs who completed TD booklets were asked to rate the difficulty of each task using a 9-point scale (from extremely low to extremely high). Interrater reliability was calculated and found acceptable. Ratings were standardized so tasks have an average difficulty rating of 5.00, with a standard deviation of 1.00. Any task with a TD rating of 6.00 or above is considered to be difficult to learn. The resulting data yield essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

When used in conjunction with the primary criterion of percent members performing, TD ratings can provide insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting AFS entry-level jobs.

TABLE 1

MAJCOM REPRESENTATION OF SURVEY SAMPLE

MAJCOM	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
ACC	47	48
AIA	21	19
AFSOC	13	12
PACAF	6	6
AETC	5	5
USAFE	4	5
AFMC	3	3
AMC	1	1

TOTAL ASSIGNED = 1,910
TOTAL SURVEYED = 1,776
TOTAL IN SAMPLE = 1,292
PERCENT OF ASSIGNED IN SAMPLE = 68%
PERCENT OF SURVEYED IN SAMPLE = 73%

* As of May 1995

NOTE: Columns may not add to 100 percent due to rounding

TABLE 2

PAYGRADE DISTRIBUTION OF SAMPLE

PAYGRADE	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
E-1 TO E-3	16	17
E-4	31	30
E-5	28	29
E-6	15	14
E-7	10	10
E-8	0	0

* As of May 1995

NOTE: Columns may not add to 100 percent due to rounding

SPECIALTY JOBS
(Career Ladder Structure)

Each Air Force occupational analysis begins with an examination of the career ladder structure. The structure of jobs within the EWS career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a *Job*. A hierarchical grouping program, which is a basic part of the Comprehensive Occupational Data Analysis Program (CODAP) system, creates an individual job description for each respondent (all the tasks performed by that individual and the relative amount of time spent on those tasks). It then compares each job description to every other job description in terms of tasks performed and the relative amount of time spent on each task in the JI. The automated system locates the two job descriptions with the most similar tasks and percent time ratings and combines them to form a composite job description. In successive stages, the system adds new members to the initial group or forms new groups based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

When there is a substantial degree of similarity between jobs, they are grouped together and identified as a *Cluster*. The job structure resulting from this grouping process (the various jobs and clusters within the career ladder) can be used to evaluate the accuracy of career ladder documents (Career Field Education and Training Plans (CFETP), AFMAN 36-2108 *Specialty Description*, and Specialty Training Standards (STS)), and to gain a better understanding of current utilization patterns.

Overview of Specialty Jobs

Based on the similarity of tasks performed and the amount of time spent performing each task, 6 clusters and 4 jobs were identified within the AFSC 2A1X7 survey sample. A listing of these is provided below and illustrated in Figure 1. The stage (ST) number shown beside each title references computer-generated information; the letter "N" stands for the number of personnel in each group.

I. POD MAINTENANCE CLUSTER (STG149, N=163)

II. AN/ALR-69 AND AN/ALE-40 MAINTENANCE CLUSTER (STG108, N=360)

III. SENSOR MAINTENANCE JOB (STG224, N=22)

AFSC 2A1X7 CAREER LADDER JOBS
(N=1,292)

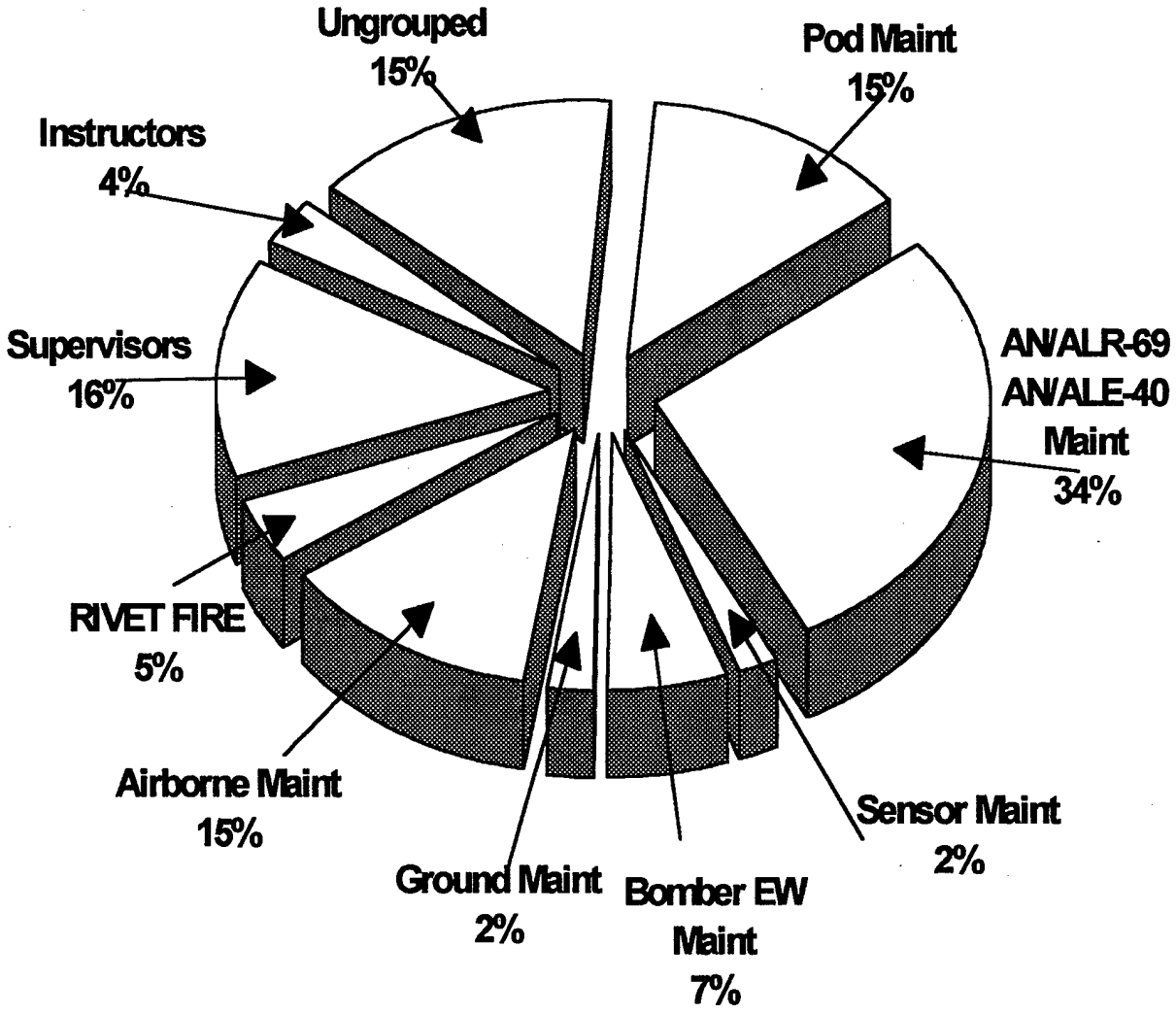

Figure 1

IV. BOMBER EW MAINTENANCE CLUSTER (STG138, N=77)

V. GROUND MAINTENANCE CLUSTER (STG117, N=32)

VI. AIRBORNE MAINTENANCE CLUSTER (STG066, N=171)

VII. EC-130 RIVET FIRE JOB (STG229, N=47)

VIII. SUPERVISOR CLUSTER (STG041, N=184)

IX. INSTRUCTOR JOB (STG132, N=36)

The respondents forming these groups account for 85 percent of the survey sample. The remaining 15 percent are performing tasks or a series of tasks which do not group with any of the defined jobs. Some job titles for these individuals include: Research and Development Test and Evaluation Monitors, Mobility, Depot Maintenance Technician, and Safety Manager.

Group Descriptions

The following paragraphs contain brief descriptions of the jobs identified through the career ladder structure analysis. Also presented are two tables which reflect the time incumbents spend on duties and selected background data for each group. Table 3 presents the relative time spent by respondents in each job across each duty listed in the JI. Table 4 displays selected background information, such as DAFSC distributions across each group, average of total months in active military service (i.e., Total Active Federal Military Service (TAFMS)), and average number of tasks performed. Appendix A at the back of this OSR lists representative tasks performed by members of each group.

Another way to illustrate these jobs is to summarize tasks performed into groups of tasks (task modules (TMs)). This allows for a very concise display of where job incumbents spend most of their time and develops a comprehensive overview of each job. Each job/cluster description contains a display of related TMs. This display shows the number of tasks included in a module, the average percent time spent on that module, and an average percentage of members performing the tasks in that module. These modules were identified through CODAP coperformance clustering, which calculates the probability that members who perform one task will also perform a second task or group of related tasks. Representative TMs are listed as part of the job description. The list of TMs with representative tasks is presented in Appendix B.

I. POD MAINTENANCE CLUSTER (STG149, N=163). Representing 15 percent of the survey sample, these members spend 41 percent of their time on tasks related to performing general EW functions and 17 percent on maintaining pod systems (see Table 3) found primarily on fighter aircraft. Performing such tasks as aligning, inspecting, operationally

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 2A1X7 JOB GROUPS
(RELATIVE PERCENT OF JOB TIME)

	POD MAINT (STG149)	AN/ALR-69 AN/ALE-40 (STG108)	SENSOR MAINT (STG224)	BOMBER EW MAINT (STG138)
A ORGANIZING AND PLANNING	3	5	5	3
B DIRECTING AND IMPLEMENTING	3	4	4	2
C EVALUATING AND INSPECTING	3	5	3	3
D TRAINING	1	3	3	2
E PERFORMING ADMINISTRATIVE OR SUPPLY FUNCTIONS	10	8	7	4
F PERFORMING GENERAL ELECTRONIC WARFARE (EW) FUNCTIONS	41	40	56	32
G MAINTAINING INFRARED (IR) SYSTEMS	0	3	0	0
H MAINTAINING RADIO FREQUENCY (RF) RECEIVING SYSTEMS	0	7	2	9
I MAINTAINING TRANSMITTING SYSTEMS	0	0	0	8
J MAINTAINING DISPENSING SYSTEMS	0	7	0	8
K MAINTAINING POD SYSTEMS	17	3	0	0
L MAINTAINING AUTOMATIC/SEMIAUTOMATIC SYSTEMS	0	2	0	20
M MAINTAINING DIRECTION FINDING SYSTEMS	0	0	0	0
N MAINTAINING RECORDING OR REPRODUCING SYSTEMS	0	0	0	0
O MAINTAINING ELECTRONIC COMBAT/RECONNAISSANCE SYSTEMS	0	0	15	0
P MAINTAINING ELECTRONIC WARFARE SUPPORT EQUIPMENT	9	1	1	1
Q PERFORMING MOBILITY TASKS	3	3	1	0
R PERFORMING CROSS UTILIZATION TRAINING (CUT) FUNCTIONS	0	1	3	2
S PERFORMING AUTOMATED MAINTENANCE DATA COLLECTION FUNCTIONS	10	8	1	6

NOTE: Columns may not add to 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 2A1X7 JOB GROUPS
(RELATIVE PERCENT OF JOB TIME)

	GROUND MAINT (STG117)	AIRBORNE MAINT (STG066)	EC-130 RIVET FIRE (STG229)	SUPERVISORS (STG041)	INSTRUCTORS (STG132)
A ORGANIZING AND PLANNING	6	5	4	24	11
B DIRECTING AND IMPLEMENTING	3	3	4	16	6
C EVALUATING AND INSPECTING	4	4	4	21	8
D TRAINING	3	4	4	8	44
E PERFORMING ADMINISTRATIVE OR SUPPLY FUNCTIONS	9	7	4	13	10
F PERFORMING GENERAL ELECTRONIC WARFARE (EW) FUNCTIONS	28	36	23	8	13
G MAINTAINING INFRARED (IR) SYSTEMS	0	2	0	0	0
H MAINTAINING RADIO FREQUENCY (RF) RECEIVING SYSTEMS	1	2	15	0	2
I MAINTAINING TRANSMITTING SYSTEMS	0	0	12	0	0
J MAINTAINING DISPENSING SYSTEMS	0	0	0	0	0
K MAINTAINING POD SYSTEMS	0	0	0	1	2
L MAINTAINING AUTOMATIC/SEMIAUTOMATIC SYSTEMS	0	0	5	0	1
M MAINTAINING DIRECTION FINDING SYSTEMS	0	0	6	0	0
N MAINTAINING RECORDING OR REPRODUCING SYSTEMS	3	8	0	0	0
O MAINTAINING ELECTRONIC COMBAT/RECONNAISSANCE SYSTEMS	13	19	12	2	1
P MAINTAINING ELECTRONIC WARFARE SUPPORT EQUIPMENT	8	5	0	1	1
Q PERFORMING MOBILITY TASKS	14	1	1	2	0
R PERFORMING CROSS UTILIZATION TRAINING (CUT) FUNCTIONS	0	1	2	0	0
S PERFORMING AUTOMATED MAINTENANCE DATA COLLECTION FUNCTIONS	5	3	4	4	1

NOTE: Columns may not add to 100 percent due to rounding

TABLE 4

SELECTED BACKGROUND DATA FOR AFSC 2A1X7 CAREER LADDER JOBS

	POD MAINT (STG149)	AN/ALR-69 AN/ALE-40 (STG108)	SENSOR MAINT (STG224)	BOMBER EW MAINT (STG138)
NUMBER IN GROUP	163	360	22	77
% OF SAMPLE	13	28	2	6
% IN CONUS	63	78	14	99
DAFSC % DISTRIBUTION:				
2A137	37	27	23	40
2A157	61	58	77	51
2A177	2	16	0	9
PREDOMINANT PAYGRADE(S)	E-4	E-4/E-5	E-4	E-4
AVG MONTHS IN SERVICE (TAFMS)	68	96	95	67
% IN FIRST ENLISTMENT	40	32	23	47
AVG NUMBER OF TASKS PERFORMED	76	127	66	136
PERCENT SUPERVISING	36	47	45	39

TABLE 4 (CONTINUED)

SELECTED BACKGROUND DATA FOR AFSC 2A1X7 CAREER LADDER JOBS

	GROUND MAINT (STG117)	AIRBORNE MAINT (STG066)	EC-130 RIVET FIRE (STG229)	SUPERVISORS (STG041)	INSTRUCTORS (STG132)
NUMBER IN GROUP	32	171	47	184	36
% OF SAMPLE	2	13	4	14	3
% IN CONUS	94	59	98	69	97
DAFSC % DISTRIBUTION:					
2A137	25	15	21	0	0
2A157	66	60	57	25	64
2A177	9	25	21	75	36
PREDOMINANT PAYGRADE(S)	E-5	E-4/E-5	E-4/E-5	E-7	E-5
AVG MONTHS IN SERVICE (TAFMS)	93	108	126	184	142
% IN FIRST ENLISTMENT	29	22	21	1	0
AVG NUMBER OF TASKS PERFORMED	101	130	135	91	76
PERCENT SUPERVISING	47	43	43	78	39

checking, and troubleshooting, these personnel maintain all of the pods except AN/ALQ-188 test pods. Incumbents in this cluster perform an average of 76 tasks, which is somewhat low compared to the other technical jobs of this career ladder. The two jobs identified in the cluster were distinguishable only by the type of pod maintained: AN/ALQ-184 jamming pod and AN/ALQ-131 advanced countermeasures pod. Examples of tasks performed include:

- perform periodic inspections of EW equipment
- inventory CTKs
- safety wire units
- operationally check AN/ALQ-184 pod systems
- inspect AN/ALQ-184 pod systems
- remove or replace AN/ALQ-184 pod system SRUs or components
- troubleshoot AN/ALQ-184 pod system SRUs or components
- perform soldering tasks
- align AN/ALQ-184 pod systems
- assemble or disassemble AN/ALQ-184 pod systems
- remove or replace EW radomes

Personnel in this cluster are low in experience, averaging 68 months TAFMS, with 40 percent in their first enlistment. The predominant paygrade of job incumbents is E-4. The majority of these personnel are found working in CONUS and 36 percent report supervising one or more personnel.

II. AN/ALR-69 AND AN/ALE-40 MAINTENANCE CLUSTER (STG108, N=360). Representing the core of the career ladder (34 percent of sample), these incumbents maintain an extensive array of EW equipment including several types of chaff and flare dispensers, and infrared, panoramic, and radar warning receivers. The personnel in this cluster spend 40 percent of their time performing Duty F, general EW activities. Members perform an average of 127 tasks, indicating that the work performed is large in scope. Their work maintaining dispensers and receivers (specifically AN/ALR-69 and AN/ALE-40) sets them apart from other members of the career ladder. Commonly performed tasks include:

- inventory CTKs
- operationally check AN/ALE-40 dispensing systems
- remove or replace aircraft access panels
- perform periodic inspections of EW equipment
- apply power to aircraft
- perform soldering tasks
- operationally check AN/ALR-69 receiving systems

- remove or replace AN/ALE-40 dispensing system LRUs
- program EW systems
- interconnect test equipment with LRUs

Several jobs were found within this cluster, differentiated by time spent maintaining equipment specific to particular aircraft. In other words, personnel were found supporting the EW missions of a vast array of gunships, fighters, and cargo aircraft. Members average 96 months TAFMS, and predominantly hold the rank of either E-4 or E-5. Thirty-two percent of the personnel are in their first-enlistment.

III. SENSOR MAINTENANCE JOB (STG224, N=22). Members in this cluster work with data link systems supporting reconnaissance aircraft (primarily the U-2) and, like the previous clusters, spend a large majority of their time (56 percent) on Duty F, performing general EW functions. Their work involving data link systems is what distinguishes this job from others. Performing only 66 tasks, this job was the smallest in scope of the career ladder. Typical tasks include:

- remove or replace aircraft access panels
- upload or download data link systems
- key encryption systems
- secure classified property
- inspect data link systems
- troubleshoot data link systems on aircraft
- operationally check data link systems
- troubleshoot data link system LRUs

Personnel in this cluster are almost entirely stationed overseas (14 percent CONUS), predominantly 5-skill level, have an average of 95 months TAFMS, moderately experienced, and the majority of whom hold the rank of E-5. Nearly all members (91 percent) are assigned to ACC.

IV. BOMBER EW MAINTENANCE CLUSTER (STG138, N=77). Representing 7 percent of the sample, these personnel maintain the automatic and semiautomatic electronic countermeasures systems supporting bomber missions. In this instance, an automatic system refers to equipment requiring no human interaction other than flipping a switch. Members of this cluster spend 32 percent of their time performing general EW activities. These personnel perform on average 136 tasks, more than any other in the sample, meaning the job is quite large in scope. Some representative tasks for the cluster include:

- remove or replace AN/ALQ-172 automatic system LRUs
- remove or replace AN/ALQ-155 semiautomatic system LRUs
- operationally check AN/ALQ-172 automatic systems
- troubleshoot AN/ALQ-172 automatic systems on aircraft
- troubleshoot AN/ALQ-155 semiautomatic systems on aircraft
- transport classified equipment
- apply power to aircraft
- inspect AN/ALQ-172 automatic system LRUs
- operationally check AN/ALR-46/46A receiving systems

The cluster boasts the highest percentage of first-enlistment personnel (47 percent) and are primarily E-4 in grade, averaging 67 months TAFMS. Ninety-nine percent are stationed in the CONUS and are distinguished from other 2A1X7 personnel by supporting the B-52H.

V. GROUND MAINTENANCE CLUSTER (STG117, N=32). Personnel in this cluster work primarily on the ground equipment that processes and exploits U-2R reconnaissance aircraft data (via satellite up/downlink) that is then disseminated to theater commanders. Their work, involving deployable ground stations (DGS) and mission intelligence segment (MIS) shelters is represented by Duty Q, performing mobility tasks (higher than any other job group) sets them apart. Members perform on average 101 tasks, including:

- secure classified property
- assemble or disassemble DGSs
- reconfigure DGSs for deployment
- remove or replace DGS LRUs
- load or unload shelters or DGSs
- perform premission or postmission checks on DGSs
- pack or unpack equipment
- troubleshoot DGS LRUs
- align deployable ground stations (DGSs)
- inspect DGSs

The members of this small cluster predominately hold the rank of E-5, and average 93 months TAFMS. Twenty-nine percent are in their first enlistment and 47 percent report supervising one or more personnel. Nearly all (94 percent) personnel are stationed in the CONUS and 100 percent are assigned to AIA. Jobs in this cluster include the Contingency Airborne Reconnaissance System: MIS, and SENIOR JADE, distinguished by time spent performing tasks related to a specific mission.

VI. AIRBORNE MAINTENANCE CLUSTER (STG066, N=171). Members of this cluster represent 13 percent of the survey sample and support primarily the RC-135U/V/W aircraft. On average, members perform 130 tasks, making it the second largest job in scope within this career ladder. As evidenced by the representative tasks, personnel maintain a multitude of reconnaissance and recording equipment. One large group, in conjunction with performing airborne maintenance, act as shift supervisors. These members perform the highest percentage of Duty O tasks, maintaining electronic combat/reconnaissance systems (19 percent). Typical tasks include:

- perform in-flight maintenance of electronic equipment
- perform in-flight checkouts of electronic equipment
- degauss tape heads
- operationally check digital recorders
- complete field maintenance reports (FMRs)
- research TO wiring or circuit diagrams
- clean tape heads
- secure classified property
- inspect coaxial cables
- operationally check video recorders
- inventory CTKs

Incumbents of this group average 108 months TAFMS, and are predominantly E-4 and E-5 in grade. Twenty-one percent of this group are in their first-enlistment and 43 percent report supervising one or more personnel. All skill levels (3, 5, and 7) are nearly equally represented. The jobs found in this cluster were divided between those individuals who perform in-flight maintenance, airborne maintenance supervisors, and those who maintain the ground support equipment for the RC-135 and various C-130 aircraft.

VII. EC-130 RIVET FIRE JOB (STG229, N=47). These airmen, representing 4 percent of the total survey sample, maintain RIVET FIRE and related systems on the EC-130H aircraft. The primary duty of these members involves general EW flightline or airborne maintenance of RIVET FIRE systems. Members perform an average of 135 tasks, the second largest number of tasks in the career ladder. More time was spent on Duty H, maintaining radio frequency receiving systems, than any other group in the sample. Some representative tasks for this cluster include:

- operationally check RIVET FIRE analysis system LRUs
- operationally check RIVET FIRE acquisition system LRUs
- operationally check RIVET FIRE analysis system LRUs

- operationally check RIVET FIRE acquisition system LRUs
- troubleshoot RIVET FIRE acquisition systems on aircraft
- troubleshoot RIVET FIRE equipment on aircraft
- remove or replace RIVET FIRE exciter system LRUs
- troubleshoot RIVET FIRE analysis system LRUs
- perform minimum performance checks on RIVET FIRE systems
- troubleshoot RIVET FIRE acquisition system LRUs

Ninety-eight percent of the RIVET FIRE incumbents are stationed in the CONUS, largely made up of 5-skill level personnel and are predominantly E-4 and E-5 in grade. Members average 126 months TAFMS, meaning that this is a fairly experienced group. Twenty-one percent are in their first-enlistment and 43 percent report supervising one or more personnel. One hundred percent of these personnel are assigned to ACC.

VIII. SUPERVISOR CLUSTER (STG041, N=184). These 184 members represent 14 percent of the sample and cover many types of supervisory positions, including: specialist section chief, shop chief, production supervisor, in-shop NCOIC, supply NCOIC, logistics manager, and quality inspector. Not surprising, supervisors spent almost all of their time performing tasks in Duties A, B, and C: organizing and planning, directing and implementing, and evaluating and inspecting. Some examples of the average 91 tasks include:

- participate in meetings. such as staff meetings, briefings, conferences, or workshops, other than conducting
- determine work priorities
- coordinate work activities with other sections or agencies
- write EPRs
- counsel members on personal or military matters
- establish performance standards for subordinates
- schedule work assignments and priorities
- evaluate personnel for compliance with performance standards
- interpret policies, directives, or procedures for subordinates
- conduct performance feedback worksheet sessions
- establish work schedules
- write recommendations for awards and decorations

Seventy-eight percent of supervisors report supervision of one or more personnel. Supervisors average 184 months TAFMS and hold primarily the rank of E-7. Three-fourths are 7-skill level with 69 percent of the group stationed in the CONUS.

IX. INSTRUCTOR JOB (STG132, N=36). The members of this job are responsible for the technical training of 2A1X7 personnel and the development of various training programs. Members distinguish themselves by spending 44 percent of their time on tasks related to training. These incumbents are largely experienced, averaging 142 months TAFMS and predominately hold the rank of E-5. Two-thirds of the instructor personnel are assigned to AETC. The Instructor Job is more limited in scope, as personnel perform an average of 76 tasks including:

- conduct resident course classroom training
- administer tests
- prepare lesson plans
- administer student critiques
- develop course curricula, such as plans of instruction (POI), or specialty training standards (STSs)
- score tests
- counsel trainees on training progress
- develop training aids
- write questions
- develop performance tests

Comparison of Current Jobs to Previous Survey Findings

The results of the specialty job analysis were compared to those of the last Electronic Warfare Systems OSR published in 1991. With some variance in the job titles between the two studies, the tasks that personnel performed in the previous OSR are generally found in the current study. As shown in Table 5, the majority of the jobs identified previously were also identified in this study, though there are some exceptions.

Summary

The three jobs and six clusters identified in the current study describe the diversity of the specialty. This diversity is equipment specific in nature and cleanly differentiates the personnel in the career ladder, with all technical personnel performing largely Duty F, performing general EW functions. The current results closely follow the historical career structure, with no major changes since the last survey.

TABLE 5

COMPARISON OF JOB GROUPS IN CURRENT STUDY
TO PREVIOUS STUDY

1996 STUDY (AFSC 2A1X7) (N=1,292)	1989 STUDY (AFSC 456X1A/B) (N=2,187)
Pod Maintenance	Pod Systems Maintenance I AN/ALQ-188 POD System Maintenance Pod Systems Maintenance II
AN/ALR-69 and AN/ALE-40 Sensor Maintenance	Receiving Systems Maintenance AN/ALE-40 Dispensing System Maintenance AN/ALQ-125 TEREC System Maintenance TAF Job Control
EC-130 Rivet Fire	Compass Call PME Maintenance (In-Flight) Compass Call PME Maintenance (Shop)
Bomber EW Maintenance	B-52G/H Semiautomatic Systems Maintenance B-52G/H General Systems Maintenance Flightline Job Control (SAC)
Airborne Maintenance	In-Flight Maintenance Flightline Maintenance Airborne Maintenance ESC Job Control
Not Identified	ESC Maintenance
Not Identified	General Shop Maintenance
Not Identified	Maintenance Analysis
Instructor	Training
Not Identified	Supply
Not Identified	Quality Control
Supervisor	Supervisor
Ground Equipment Maintenance	Cross Utilization Training System 27 Maintenance TGIF Maintenance Support Equipment Maintenance Courseware Development Technical Order Management Career Field Management

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may be used to evaluate how well career ladder documents, such as the CFETP, AFMAN 36-2108 *Specialty Description*, and the STS reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the career ladder jobs is displayed in Table 6, while Table 7 offers another perspective by displaying the relative percent time spent on each duty across the skill-level groups.

A typical pattern of progression is noted within the AFSC 2A1X7 career ladder. Personnel at the 3- and 5-skill levels work in the technical jobs of the career ladder. As incumbents move up through the 7-skill level, higher percentages perform supervision and training functions, and they spend somewhat less time on technical activities (see Tables 6 and 7).

Skill-Level Descriptions

DAFSC 2A137. The 268 airmen in the 3-skill level group, representing 21 percent of the survey sample, spend almost all of their job time on maintaining radio frequency systems and performing general electronic warfare functions (see Table 7). Thirty-six percent are working in the AN/ALR-69 and AN/ALE-40 Maintenance Cluster, with an additional 23 percent working in the Pod Maintenance Cluster. The rest of these personnel are spread across most of the other clusters and jobs (see Table 6). The focus of their job is shown by Table 8, which lists representative tasks performed by 3-skill level incumbents. All tasks listed relate to Duty F, Performing General Electronic Warfare Functions.

DAFSC 2A157. The 711 airmen in the 5-skill level group represent 55 percent of the total survey sample. As with 3-skill level personnel, the largest percentages of these incumbents are working in the AN/ALR-69 and AN/ALE-40 Maintenance Cluster; however, the percentage of 5-skill level personnel in this cluster is lower than the percentage for the 3-level personnel. Time in duties show a slight increase of time spent on supervisory duties (see Table 7). Members also spend a substantial amount of time on the tasks of Duty F.

Representative tasks performed by 5-skill level incumbents are listed in Table 9. Table 10 reflects those tasks which best differentiate 5-skill level personnel from their 3-skill level counterparts. The Tables show a decreased emphasis on the technical tasks and an added emphasis on directing and implementing tasks and training tasks. The information suggests that the 5-skill level members are a little more spread across supervisory responsibilities than the more technically oriented 3-skill level members.

TABLE 6

DISTRIBUTION OF SKILL-LEVEL MEMBERS ACROSS CAREER LADDER JOBS
(PERCENT)

JOB		DAFSC 2A137 (N=268)	DAFSC 2A157 (N=711)	DAFSC 2A177 (N=313)
I.	Pod Maintenance	23	14	1
II.	AN/ALR-69 and AN/ALE-40 Maintenance	36	29	18
III.	Sensor Maintenance	2	2	0
IV.	Bomber EW Maintenance	12	6	2
V.	Ground Equipment Maintenance	3	3	1
VI.	Airborne Maintenance	10	15	13
VII.	EC-130 Rivet Fire	4	4	3
VIII.	Supervisor	0	7	44
IX.	Instructor	0	3	4
	Not Grouped	10	17	14

TABLE 7

TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)

DUTIES		DAFSC 2A137 (N=268)	DAFSC 2A157 (N=711)	DAFSC 2A177 (N=313)
A	ORGANIZING AND PLANNING	4	8	12
B	DIRECTING AND IMPLEMENTING	4	9	17
C	EVALUATING AND INSPECTING	1	5	13
D	TRAINING	2	5	7
E	PERFORMING ADMINISTRATIVE OR SUPPLY FUNCTIONS	*	*	2
F	PERFORMING GENERAL ELECTRONIC WARFARE (EW) FUNCTIONS	25	22	17
G	MAINTAINING INFRARED (IR) SYSTEMS	7	5	3
H	MAINTAINING RADIO FREQUENCY (RF) RECEIVING SYSTEMS	30	11	3
I	MAINTAINING TRANSMITTING SYSTEMS	5	3	*
J	MAINTAINING DISPENSING SYSTEMS	*	*	*
K	MAINTAINING POD SYSTEMS	*	2	*
L	MAINTAINING AUTOMATIC/SEMIAUTOMATIC SYSTEMS	*	1	*
M	MAINTAINING DIRECTION FINDING SYSTEMS	3	4	1
N	MAINTAINING RECORDING OR REPRODUCING SYSTEMS	2	3	*
O	MAINTAINING ELECTRONIC COMBAT/RECONNAISSANCE SYSTEMS	6	6	4
P	MAINTAINING ELECTRONIC WARFARE SUPPORT EQUIPMENT	*	*	*
Q	PERFORMING MOBILITY TASKS	3	5	5
R	PERFORMING CROSS UTILIZATION TRAINING (CUT) FUNCTIONS	4	7	9
S	PERFORMING AUTOMATED MAINTENANCE DATA COLLECTION FUNCTIONS	2	2	4

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY DAFSC 2A137 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=268)
F260	Inventory CTKs	85
F288	Perform soldering tasks	79
F296	Practice electrostatic discharge (ESD) procedures	70
F340	Safety wire units	70
F283	Perform periodic inspections of EW equipment	68
F310	Remove or replace coaxial cables or connectors	68
F341	Secure classified property	66
F292	Perform visual inspections of antennas	63
F314	Remove or replace EW radomes	63
F276	Perform corrosion control on EW equipment	61
F307	Remove or replace antennas	61
F253	Inspect coaxial cables	61
F336	Research TO wiring or circuit diagrams	61
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	60
F273	Pack or unpack equipment	55
F275	Perform antenna checkouts	55
F271	Operationally check EW system displays or monitors	54
F246	Fabricate coaxial cables	54
F300	Program EW systems	54
F236	Apply power to aircraft	53
F352	Transport classified equipment	50
S1093	Create workcenter events	49
F316	Remove or replace fuses or circuit breakers	49
F328	Remove or replace switches	48
F320	Remove or replace mounting brackets or fixtures	47
F306	Remove or replace aircraft access panels	46
F337	Research TOs to identify components or items of equipment	46
F304	Remove or install equipment to facilitate other maintenance	46

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY DAFSC 2A157 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=711)
F260	Inventory CTKs	79
F288	Perform soldering tasks	74
F296	Practice electrostatic discharge (ESD) procedures	72
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	68
F341	Secure classified property	67
F[illegible]	Remove or replace coaxial cables or connectors	62
F[illegible]	Research TO wiring or circuit diagrams	60
F[illegible]	Inspect coaxial cables	60
A6	Determine work priorities	58
F340	Safety wire units	58
F292	Perform visual inspections of antennas	58
F273	Pack or unpack equipment	56
E223	Research federal logistic (FEDLOG) files for supply requisition data	54
S1080	Access automated maintenance data collection systems menus and data screens	54
F316	Remove or replace fuses or circuit breakers	54
F307	Remove or replace antennas	54
F246	Fabricate coaxial cables	54
F328	Remove or replace switches	52
F276	Perform corrosion control on EW equipment	52
F352	Transport classified equipment	52
F258	Interconnect test equipment with LRUs	51
F283	Perform periodic inspections of EW equipment	51
S1093	Create workcenter events	51
F321	Remove or replace multiconductor cables or connectors	50
D124	Conduct OJT	50
F300	Program EW systems	50

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 2A137 AND DAFSC 2A157 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		2A137 (N=268)	2A157 (N=711)	DIFFERENCE
B40	Counsel subordinates on personal or military matters	5	46	-40
C68	Conduct performance feedback worksheet sessions	2	39	-37
C113	Write EPRs	2	39	-37
D127	Counsel trainees on training progress	3	40	-37
D124	Conduct OJT	14	50	-35
A6	Determine work priorities	23	58	-35
B65	Supervise Electronic Warfare Systems Journeymen (AFSC 2A157)	3	37	-34
A3	Coordinate work activities with other sections or agencies	16	50	-33
B63	Supervise Electronic Warfare Systems Apprentice (AFSC 2A137)	12	42	-30
C93	Evaluate personnel for compliance with performance standards	3	32	-29
C74	Evaluate completed maintenance	6	34	-28
A16	Establish performance standards for subordinates	5	31	-27
A34	Schedule work assignments and priorities	6	31	-25
C114	Write recommendations for awards and decorations	1	25	-24
C104	Inspect personnel for compliance with military standards	3	26	-23
D152	Maintain training records, charts, or graphs	9	32	-23
A25	Plan work assignments	6	29	-23
A19	Establish work schedules	4	26	-22
E168	Certify status of repairable, serviceable, or condemned parts	12	34	-22
B49	Direct shop maintenance	6	28	-22
B61	Orient newly assigned personnel	17	37	-20

DAFSC 2A177. The 313 7-skill level personnel represent 24 percent of the survey sample. Unlike their junior counterparts at the 3- and 5-skill levels, these personnel spend the largest percentage of their time on supervisory activities. The majority (44 percent) of 7-skill level personnel perform the Supervision Job (see Table 6).

Table 11 lists the most common tasks performed by 7-skill level personnel. Most of these involve organizing and planning functions; fewer tasks performed by 7-skill level personnel are technical. Table 12 shows those tasks which best differentiate the 5- and 7-skill levels. As expected, the key differences are a greater emphasis on evaluative and inspecting functions and less emphasis on technical tasks at the 7-skill level. The data suggest that the 7-skill level personnel are focused primarily on supervision, AN/ALR-69 and AN/ALE-40 maintenance, and airborne maintenance.

Summary

Progression in this career ladder follows a normal pattern of highly technical job focus at the lower skill levels with a broadening into first-line supervision at the 7-skill. At the 3-skill level emphasis is seen in the core of the career field, the AN/ALR-69 and AN/ALE-40 Cluster. At the 5-skill level members can be expected to work nearly any job. At the 7-skill level, the work is again more focused with members performing mostly supervisory activities though members are found in other jobs, notably the AN/ALR-69 and AN/ALE-40 Cluster, and the Airborne Maintenance Cluster.

ANALYSIS OF AFMAN 36-2108 *SPECIALTY DESCRIPTION*

Survey data were compared to the AFMAN 36-2108 *Specialty Description* for Electronic Warfare Systems, effective 31 October 1994. This specialty description is intended to provide a broad overview of the duties and responsibilities of each skill level. In general, the specialty description covers tasks and jobs performed by career ladder personnel. It should be noted, however, that the AFMAN 36-2108 *Specialty Description* does not specify duties and responsibilities for each skill level, so a detailed analysis is not possible.

TRAINING ANALYSIS

Occupational survey data represent one of many sources of information which are used to assist in the development of training programs for career ladder personnel. OSR data useful to training personnel include job descriptions for the various jobs performed within a career ladder,

TABLE 11

REPRESENTATIVE TASKS PERFORMED BY DAFSC 2A177 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=313)
A20	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	84
A3	Coordinate work activities with other sections or agencies	81
A6	Determine work priorities	79
B40	Counsel subordinates on personal or military matters	78
C113	Write EPRs	77
C68	Conduct performance feedback worksheet sessions	74
C93	Evaluate personnel for compliance with performance standards	68
C114	Write recommendations for awards or decorations	67
A16	Establish performance standards for subordinates	65
B61	Orient newly assigned personnel	65
A34	Schedule work assignments and priorities	65
C104	Inspect personnel for compliance with military standards	64
A19	Establish work schedules	63
A25	Plan work assignments	62
B59	Interpret policies, directives, or procedures for subordinates	61
A33	Schedule leaves or temporary duty (TDY)	61
B65	Supervise Electronic Warfare Systems Journeymen (AFSC 2A571)	60
F341	Secure classified property	58
D127	Counsel trainees on training progress	57
F296	Practice electrostatic discharge (ESD) procedures	56
B64	Supervise Electronic Warfare Systems Craftsmen (AFSC 2A177)	56
A11	Develop work methods or procedures	55
A4	Determine personnel requirements, other than mission requirements	55
C74	Evaluate completed maintenance	54

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 2A157 AND DAFSC 2A177 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		2A157 (N=711)	2A177 (N=313)	DIFFERENCE
F288	Perform soldering tasks	74	41	33
F276	Perform corrosion control on EW equipment	52	22	30
F310	Remove or replace coaxial cables or connectors	62	33	29
F328	Remove or replace switches	52	24	29
F340	Safety wire units	58	30	28
F260	Inventory CTKs	79	51	28
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	68	42	26
A33	Schedule leaves or temporary duty (TDY)	11	61	-51
B64	Supervise Electronic Warfare Systems Craftsmen (AFSC 2A177)	10	56	-46
C114	Write recommendations for awards and decorations	25	67	-42
C109	Review and edit recommendations for awards and decorations	6	48	-42
A4	Determine personnel requirements, other than mission requirements	13	55	-42
A1	Assign personnel to duty positions	12	53	-41
A2	Assign sponsors for newly assigned personnel	7	48	-41

distribution of personnel across career ladder jobs, percentages of personnel performing specific tasks, and percentages of personnel maintaining specific equipment or systems, as well as the difficulty of tasks and TE ratings gathered from senior members of the career ladder. As cited in the **SURVEY ADMINISTRATION**, due to the diverse nature of the career ladder, the interrater reliability was found to be unacceptably low. Therefore, no TE data are reported in this OSR.

Task Difficulty Data

TD data are secondary factors that can help technical school personnel decide which entry-level training tasks to emphasize. These ratings, based on the judgments of senior career ladder NCOs at operational units, provide training personnel with a rank ordering of those tasks considered important for first-enlistment airman training (TE), and a measure of the difficulty of those tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings but low percentages performing may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel. This decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

Table 13 lists the tasks having the highest TD ratings. The percentages of first-job, first-enlistment, 5-, and 7-skill level personnel performing are also included for each task. The majority of tasks with high difficulty included troubleshooting and aligning various pieces of equipment or systems.

Various lists of tasks, accompanied by TD ratings, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. For a more detailed explanation of TD and TE ratings, see the Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.

First-Enlistment Personnel

In this study, there are 325 members in their first enlistment (1-48 months TAFMS), representing 25 percent of the survey sample. As displayed in Table 14, their time is distributed across numerous duties with an overwhelming 42 percent spent on performing general EW functions. Figure 2 shows how all first-enlistment personnel are distributed across the jobs identified in the **SPECIALTY JOBS** section of this report. Of the jobs identified, 35 percent of first-enlistment personnel are found in the AN/ALR-69 and AN/ALE-40 Maintenance Cluster, 20 percent in the Pod Maintenance Cluster, 12 percent in the Airborne Maintenance Cluster, and 3 percent in both the EC-130 RIVET FIRE Job and Ground Maintenance Cluster, leaving a mere 2 percent in the Sensor Maintenance Job. The remaining 14 percent, for one reason or another, did not group.

TABLE 13

DAFSC 2A1X7 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

		TASK DIFF	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	DAFSC 2A157	DAFSC 2A177
P1014	Troubleshoot ES-123 GDPSs	7.70	0	1	1	2
H408	Align AN/APR-47 receiving system LRUs	7.68	2	3	2	1
K656	Troubleshoot AN/ALQ-184 pod system SRUs or components	7.61	17	16	13	5
H479	Troubleshoot AN/APR-47 receiving systems on aircraft	7.32	2	3	2	2
O947	Troubleshoot RIVET JOINT systems on aircraft	7.27	5	5	5	8
M756	Troubleshoot experimental direction finding system SRUs or components	7.26	0	0	0	1
O939	Troubleshoot experimental electronic reconnaissance systems on aircraft	7.21	1	1	3	7
O938	Troubleshoot experimental electronic reconnaissance system SRUs or components	7.21	1	1	2	5
O900	Troubleshoot COBRA BALL systems on aircraft	7.19	0	1	1	3
H481	Troubleshoot experimental receiving system SRUs or components	7.12	1	0	1	4
C92	Evaluate new EW systems under research development test and evaluation (RDT&E)	7.12	2	1	3	8
O940	Troubleshoot in-flight maintenance stations on aircraft	7.12	2	2	7	11
K614	Align experimental pod receiving system LRUs	7.11	2	1	1	0
O901	Troubleshoot COMBAT SENT systems on aircraft	7.01	6	3	3	5
M762	Troubleshoot SILO system SRUs or components	6.98	2	3	3	3
O933	Troubleshoot ES-400 AEELS/CSTARS SRUs or components	6.98	0	1	0	0
O955	Troubleshoot TASS on aircraft	6.98	2	1	1	1
O950	Troubleshoot SCSs on aircraft	6.98	1	0	0	2
O932	Troubleshoot ES-400 AEELS/CSTARS on aircraft	6.98	0	1	2	2
K612	Align AN/ALQ-184 pod systems	6.97	15	16	13	8
M729	Align experimental direction finding system LRUs	6.96	0	0	0	1
M755	Troubleshoot experimental direction finding system LRUs	6.96	0	0	0	1
H478	Troubleshoot AN/APR-47 receiving system SRUs or components	6.96	2	2	1	1

TD MEAN = 5.00; SD = 1.00

TABLE 14

RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY FIRST-ENLISTMENT AFSC 2A1X7 PERSONNEL (N=325)

DUTIES		PERCENT TIME SPENT
A	ORGANIZING AND PLANNING	2
B	DIRECTING AND IMPLEMENTING	1
C	EVALUATING AND INSPECTING	1
D	TRAINING	1
E	PERFORMING ADMINISTRATIVE OR SUPPLY FUNCTIONS	7
F	PERFORMING GENERAL ELECTRONIC WARFARE (EW) FUNCTIONS	42
G	MAINTAINING INFRARED (IR) SYSTEMS	2
H	MAINTAINING RADIO FREQUENCY (RF) RECEIVING SYSTEMS	6
I	MAINTAINING TRANSMITTING SYSTEMS	2
J	MAINTAINING DISPENSING SYSTEMS	4
K	MAINTAINING POD SYSTEMS	6
L	MAINTAINING AUTOMATIC/SEMIAUTOMATIC SYSTEMS	4
M	MAINTAINING DIRECTION FINDING SYSTEMS	*
N	MAINTAINING RECORDING OR REPRODUCING SYSTEMS	2
O	MAINTAINING ELECTRONIC COMBAT/RECONNAISSANCE SYSTEMS	4
P	MAINTAINING ELECTRONIC WARFARE SUPPORT EQUIPMENT	4
Q	PERFORMING MOBILITY TASKS	2
R	PERFORMING CROSS UTILIZATION TRAINING (CUT) FUNCTIONS	1
S	PERFORMING AUTOMATED MAINTENANCE DATA COLLECTION FUNCTIONS	7

NOTE: Columns may not add to 100 percent due to rounding

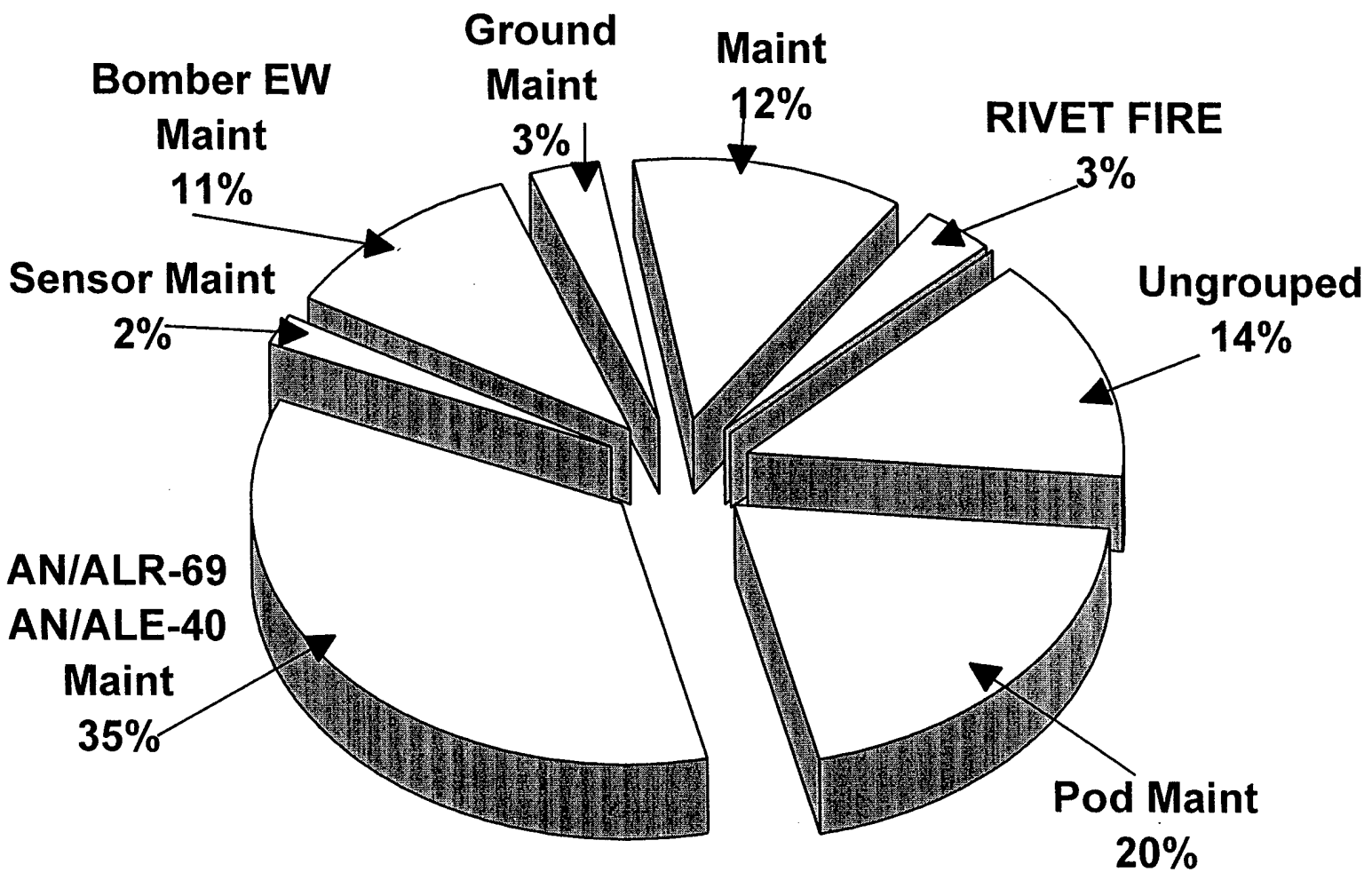
FIRST ENLISTMENT PERSONNEL JOBS
(N=325)
Ground Maint 3%
Maint 12%
Bomber EW Maint 11%
RIVET FIRE 3%
Sensor Maint 2%
Ungrouped 14%
AN/ALR-69 AN/ALE-40 Maint 35%
Pod Maint 20%

Figure 2

Table 15 displays commonly performed tasks for first-enlistment personnel. Nearly every task displayed involves performing general EW maintenance activities. This supports the data presented in Table 14 and Figure 2. Equipment utilized by 30 percent or more of first-job or first-enlistment personnel is listed in Table 16. This table includes a variety of shop tools as well as computers and printers.

Specialty Training Standard (STS)

In April 1996, training personnel from Keesler AFB matched tasks in the JI to appropriate sections of the STS. A listing of the STS was then produced showing each STS paragraph and subparagraph, tasks matched, and percent criterion group members performing. This listing is included in the Training Extract sent to the school for review. Criteria set forth in AETCI 36-2601 were used to review the relevance of each STS paragraph and subparagraph with matched tasks.

Any STS paragraph or subparagraph with matched tasks performed by 20 percent or more of first-job (1-24 months TAFMS), first-enlistment (1-48 months TAFMS), 5-, or 7-skill level members is considered to be supported and should be retained in the STS. General paragraphs, such as Career Ladder Progression, Security, Supervision, Hazardous Materials and Waste Handling, and Training (paragraphs 1 through 3 and 5 through 6) were not reviewed. The remaining paragraphs were thoroughly reviewed against OSR data. Due to the diverse nature of the career ladder, the standard analysis involving TAFMS and DAFSC groups resulted in approximately 25 unsupported STS items. Table 17 lists the STS items and matched tasks which did not meet the criteria. In general, the STS items deal with maintenance management, AF technical orders, maintenance and inspection, on equipment, and especially, off equipment. For ease of reading, only the first-enlistment and DAFSC groups are presented in the table.

Tasks not matched to any element of the STS are listed at the end of the STS computer listing. Many technical tasks performed by more than 20 percent of criterion group members were not matched to the STS. Table 18 shows those tasks and the percent members performing, as well as the task difficulty. All tasks not referenced should be reviewed to identify areas which may be included in future STSs.

Plan of Instruction (POI)

At the same time the STS was matched to the task list, the POI was also matched in the same way. Any POI paragraph or subparagraph with matched tasks performed by 30 percent or more of first-job (1-24 months TAFMS) or first-enlistment (1-48 months TAFMS) members is considered to be supported and should be retained in the POI. In this diverse specialty, there were five cases where the tasks matched to POI items did not have 30 percent members

TABLE 15

MOST COMMONLY PERFORMED TASKS FOR
FIRST-ENLISTMENT AFSC 2A1X7 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=325)
F260	Inventory CTKs	84
F288	Perform soldering tasks	78
F340	Safety wire units	70
F296	Practice electrostatic discharge (ESD) procedures	68
F310	Remove or replace coaxial cables or connectors	66
F283	Perform periodic inspections of EW equipment	65
F341	Secure classified property	65
F292	Perform visual inspections of antennas	63
F253	Inspect coaxial cables	63
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	61
F307	Remove or replace antennas	61
F314	Remove or replace EW radomes	60
F336	Research TO wiring or circuit diagrams	59
F276	Perform corrosion control on EW equipment	59
F246	Fabricate coaxial cables	55
F275	Perform antenna checkouts	55
F300	Program EW systems	54
F236	Apply power to aircraft	54
F273	Pack or unpack equipment	54
F271	Operationally check EW system displays or monitors	53
F316	Remove or replace fuses or circuit breakers	51
F328	Remove or replace switches	49
S1093	Create workcenter events	49
F352	Transport classified equipment	49
F258	Interconnect test equipment with LRUs	48
F304	Remove or install equipment to facilitate other maintenance	47
F306	Remove or replace aircraft access panels	46
F320	Remove or replace mounting brackets or fixtures	46
S1080	Access automated maintenance data collection systems menus and data screens	45
F354	Transport test equipment or units	45
F337	Research TOs to identify components or items of equipment	45
F353	Transport EW systems	44
E193	Maintain CTKs	43
E223	Research federal logistic (FEDLOG) files for supply requisition data	42
F321	Remove or replace multiconductor cables or connectors	42

TABLE 16

GENERAL TEST/SHOP EQUIPMENT ITEMS USED/OPERATED BY MORE THAN 30 PERCENT OF FIRST-JOB OR FIRST-ENLISTMENT AFSC 2A1X7 PERSONNEL

EQUIPMENT	PERCENT MEMBERS USING 2A1X7 1ST JOB (N=126)	2A1X7 1ST ENL (N=325)
Oscilloscopes	87	82
Multimeters	78	81
Computers	74	76
Soldering Stations	71	74
Power Meters	66	66
Printers	62	65
Spectrum Analyzers	58	61
Attenuators	59	61
Torque Wrenches	58	61
Frequency Counters	61	60
Dummy Loads	54	60
Pulse Generators	55	56
Signal Generators	53	56
Power Supplies	52	56
Memory Loader/Verifiers	48	52
Universal Counters	47	48
Hot Mockups	40	48
Pod Cradles	47	47
Time Domain Reflectometers (Tdrs)	40	46
HT900 Heat Guns	40	46
Directional Couplers	40	43
Scalar Network Analyzers	43	40
Radar Simulators	33	40
Hobart Diesels	29	37
Pod Dollies	39	37
Lightalls	30	37
AN/APM-427 Radar Simulators	25	36
Frequency Synthesizers	30	35
Calculators	29	34
GYQ-59 Digital Computer System	28	34
Maintenance Stands	28	34
Air Conditioners	29	33
Crystal Diode Detectors	26	32
Ammeters	18	30

TABLE 17

STS ITEMS NOT SUPPORTED BY OSR DATA
(PERCENT MEMBERS PERFORMING)

STS REFERENCE/TASKS	3-LVL COURSE PROF CODE	PERCENT MEMBERS PERFORMING 1ST ENL (N=325)	5-LVL (N=711)	7-LVL (N=313)	TSK DIF
7f. Reliability and maintainability for pods (RAMPOD)	-				
S1085 Collate reliability and maintainability for pod (RAMPOD) data		15	14	10	4.53
8d. Technical order improvement reports	A				
F298 Prepare recommendations for changes to aircrew publications		2	3	8	4.50
10e(3). Training management of maintenance personnel	-				
S1104 Schedule automated maintenance data collection systems training		3	5	8	3.58
13d(2). Preflight	-				
R1063 Perform aircraft preflight inspections		7	10	7	4.78
14b. Fabricate test bench mock-up	-				
F249 Fabricate test bench mock-ups		13	14	14	5.83
14g(7). Infrared detection systems	-				
G400 Troubleshoot AN/AAR-44 receiving system LRUs		7	9	5	4.80
14j(2). Receivers	2b				
F238 Calibrate Category II (non-TMDE) equipment		7	9	10	4.78
14j(6). Pods	2b				
K612 Align AN/ALQ-184 Pod systems		17	13	8	6.97
14m(5). Fabricate	-				
F247 Fabricate fiber-optic cables		6	6	5	5.45

TD MEAN = 5.00; SD = 1.00

TABLE 18

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE GROUP MEMBERS BUT NOT REFERENCED BY STS

TASKS		PERCENT MEMBERS PERFORMING 1ST JOB (N=126)	1ST ENL (N=325)	DAFSC 2A157 (N=711)	DAFSC 2A177 (N=313)	TSK DIF
F310	Remove or replace coaxial cables or connectors	63	66	62	33	3.88
F253	Inspect coaxial cables	52	63	60	40	3.01
F307	Remove or replace antennas	53	61	54	28	3.85
F328	Remove or replace switches	44	49	52	24	4.29
F352	Transport classified equipment	40	49	52	45	3.08
F321	Remove or replace multiconductor cables or connectors	31	42	50	29	4.41
E193	Maintain CTKs	41	43	42	23	3.37
F239	Clean air filters	35	40	49	25	1.82
F327	Remove or replace relays	34	39	44	20	4.38
F329	Remove or replace video splices	33	39	43	23	4.81
F266	Maintain facilities	21	26	32	30	2.99
F324	Remove or replace printed circuit board components	21	28	29	22	5.01
F330	Remove or replace waveguide assemblies	31	32	26	9	4.27
F240	Clean tape heads	25	22	23	20	1.82
F267	Modify EW equipment in shop	19	23	23	18	5.26
F343	Service EW systems with coolants	31	30	21	10	3.33

TD MEAN = 5.00; SD = 1.00

performing in either of these two groups. These POI paragraphs can be found in Table 19. The first three paragraphs deal with receivers and the percentages of members performing related tasks fall quite short of the required 30 percent.

Tasks not matched to any POI element are listed at the end of the POI computer listing. According to the criteria listed in AETCI 36-2601, tasks with a percent members performing greater than 30 percent for either first-job or first-enlistment personnel should be examined closely for inclusion in the POI. There were only a few technical tasks which had greater than 30 percent members performing which were not referenced to the POI. These are listed in Table 20. All of the tasks are general in nature.

JOB SATISFACTION ANALYSIS

An examination of responses to the job satisfaction questions can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. The survey booklet included questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions. The responses of the current survey sample were then analyzed by making several comparisons: (1) among TAFMS groups of the EWS career ladder and a comparative sample of personnel from other Mission Equipment Management career ladders surveyed in; (2) between current and previous survey experience groups; and (3) across specialty groups identified in the **SPECIALTY JOBS** section of the report.

Table 21 compares first-enlistment (1-48 months TAFMS), second-enlistment (49-96 months TAFMS), and career (97+ months TAFMS) group data to corresponding enlistment groups from other Mission Equipment Management AFSCs surveyed during the previous calendar year. These data give a relative measure of how the job satisfaction of AFSC 2A1X7 personnel compares with similar Air Force specialties. The first-enlistment group reports considerably lower job satisfaction for all indicators except sense of accomplishment when assessed against the comparison data. The second-enlistment group also reports lower scores for all indicators except for expressed job interest. The job satisfaction indicators for the career group are either the same as or lower than the other Mission Equipment Management AFSCs. with exception of reenlistment intentions, which were higher than the comparative group.

Comparison of job satisfaction indicator responses of the current survey TAFMS groups to TAFMS groups from the previous survey (see Table 22) indicated that generally the 1995 responses are lower than the 1991 responses, with one exception: the perceived use of job training for first-term personnel is higher than reported in the last OSR. The second-enlistment job satisfaction indicators appear to be largely the same as the previous study, however, the career group indicators are all slightly higher than the 1991 responses.

TABLE 19

POI ITEMS NOT SUPPORTED BY OSR DATA
(PERCENT MEMBERS PERFORMING)

POI REFERENCE/TASKS	1ST JOB (N=126)	1ST ENL (N=325)	TSK DIF
2.4 4a. Working in a group using TO 12P3-2ALR20-22(C), support equipment, receiver test station, and an AN/ALR-20A(C) Counter Measures Receiving Set, perform alignment procedures for a high band tuner following TO directives with no more than four student initiated instructor assists and no safety errors			
F238 Calibrate category II (non-TMDE) equipment	6	7	4.78
2.4 5a. Working in a group using TO 12P3-2ALR20-22(C), HO KAV432(C) an ALM-60 Receiver Test Station, and an AN/ALR-20A(C) Counter Measures Receiving Set, correct two different instructor inserted malfunctions in the AN/ALR-20A(C) Panoramic Receiver following TO directives with no more than three student initiated instructor assists and no safety errors per malfunction			
H468 Troubleshoot AN/ALR-20A receiving LRUs	4	7	5.68
2.5 5b. Working as a member of a group, using a B-52G/H simulator, support equipment, TO 1B-52G-2-20, and Electrostatic Discharge (ESD) principles, troubleshoot, AN/ALR-46 malfunctions to the line replaceable unit LRU). Annotate aircraft forms and update Core Automated Maintenance System (CAMS).			
F295 Pot or depot connectors	6	9	3.19
3.2 1d. Working as a member of a group, ST KAV 418(u), HO KAV 488(U), TO 33D7-13-89-1(U), and an AN/ALM-233, manually operate the support equipment IAW the TO.			
F252 Inspect Category II or III EW support equipment	13	11	4.25
3.1 3b. Working as a member of a group, using and AN/GYQ-59 Combined User and Computer Operation Manual (U), TO 33D7-13-109-1(U), TO 33D7-3-335-1(U), ST KAV 424U, an AN/ALQ-172(V), perform selected AN/ALQ-172(V) Built In Test (BIT) procedures IAW the TO.			
F255 Inspect shop for fire or safety hazards	20	19	3.26

TABLE 20

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 30 PERCENT OR MORE GROUP MEMBERS BUT NOT REFERENCED BY POI

TASKS		PERCENT MEMBERS PERFORMING 1ST JOB (N=126)	1ST ENL (N=325)	TSK DIF
F236	Apply power to aircraft	48	54	3.98
F237	Brief of debrief flight crews	32	34	4.85
F239	Clean air filters	35	40	1.82
F246	Fabricate coaxial cables	47	55	4.00
F253	Inspect coaxial cables	52	63	3.01
F256	Inspect test bench mock-ups	34	38	3.71
F273	Pack or unpack equipment	51	54	2.67
F283	Perform periodic inspections of EW equipment	68	65	4.78
F284	Perform phase inspections of EW equipment	37	41	5.11
F288	Perform soldering tasks	70	78	4.36
F292	Perform visual inspections of antennas	60	63	3.09
F296	Practice electrostatic discharge (ESD) procedures	67	68	3.43
F306	Remove or replace aircraft access panels	48	46	2.68
F307	Remove or replace antennas	53	61	3.85
F310	Remove or replace coaxial cables or connectors	63	66	3.88
F314	Remove or replace EW radomes	62	60	3.53
F316	Remove or replace fuses or circuit breakers	44	51	3.05
F319	Remove or replace minor hardware such as light bulbs, screws, or knobs	56	61	2.08

TABLE 21

JOB SATISFACTION INDICATORS FOR AFSC 2A1X7 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	AFSC 2A1X7 (N=325)	COMP SAMPLE (N=1,280)	AFSC 2A1X7 (N=288)	COMP SAMPLE (N=805)	AFSC 2A1X7 (N=678)	COMP SAMPLE (N=1,693)
EXPRESSED JOB INTEREST:						
INTERESTING	62	74	67	65	74	75
SO-SO	24	15	18	19	14	15
DULL	14	11	15	16	12	9
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	72	81	73	82	77	83
NONE TO VERY LITTLE	27	19	26	18	23	17
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	75	85	66	82	65	76
NONE TO VERY LITTLE	25	14	33	17	35	24
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	65	58	64	71	71	73
NEUTRAL	18	42	16	28	9	10
DISSATISFIED	17	0	20	0	20	16
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	51	71	65	71	81	73
NO OR PROBABLY NO	48	18	34	11	7	10
WILL RETIRE	0	11	0	17	12	16

NOTE: Columns may not add to 100 percent due to rounding or nonresponse
Comparative data are from AFSCs 2A0X1A, 2A3X1A/B/C, 2E1X2, 2E7X3, 2M0X3, surveyed in 1995

TABLE 22

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2A1X7
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	1996 2A1X7 (N=325)	1991 456X1A/B (N=1351)	1996 2A1X7 (N=288)	1991 456X1A/B (N=550)	1996 2A1X7 (N=678)	1991 456X1A/B (N=1180)
EXPRESSED JOB INTEREST:						
INTERESTING	62	73	67	71	74	70
SO-SO	24	16	18	16	14	14
DULL	14	11	15	13	12	16
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	72	78	73	74	77	73
NONE TO VERY LITTLE	27	21	26	25	23	27
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	75	70	66	65	65	61
NONE TO VERY LITTLE	25	29	33	34	35	39
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	65	69	64	66	71	65
NEUTRAL	18	15	16	13	9	11
DISSATISFIED	17	16	20	21	20	24
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	51	60	65	65	81	74
NO OR PROBABLY NO	48	39	34	35	7	15
WILL RETIRE	0	0	0	0	12	10

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

An examination of job satisfaction data can also reveal the influences performing certain jobs may have on overall job satisfaction. Table 23 presents job satisfaction data for the jobs identified in the career ladder structure for AFSC 2A1X7. One cluster, Ground Maintenance, was much lower than the other jobs on nearly all job satisfaction indicators (particular concern should be expressed for job interest and perceived use of training). EC-130 RIVET FIRE personnel reported the highest job interest and perceived use of talents. The overall highest reports of job satisfaction appear to belong to the instructor personnel, who also report far and away the highest intent to reenlist.

IMPLICATIONS

As explained in the **INTRODUCTION,** this survey was conducted primarily to provide training personnel with current information on the EWS career ladder for use in reviewing current training programs and training documents. Overall job progression is normal and shows a distinct pattern as one moves from the 3- to 7-skill level. The AFMAN 36-2108 *Specialty Description* broadly describes the jobs and tasks being performed. Analysis of career ladder documents indicate the STS needs considerable review and the POI is fairly well supported by survey data, with only a few exceptions. Job satisfaction is a cause for concern, as first-enlistment personnel report much lower satisfaction than a comparative sample. This cause for concern is made more evident by a trend of lower job satisfaction scores versus the last survey.

TABLE 23

JOB SATISFACTION INDICATORS FOR AFSC 2A1X7 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	POD MAINT (STG149) (N=163)	AN/ALR-69 AN/ALE-40 (STG108) (N=360)	SENSOR MAINT (STG224) (N=22)	BOMBER EW MAINT (STG 138) (N=77)
EXPRESSED JOB INTEREST:				
INTERESTING	67	63	86	74
SO-SO	19	21	9	16
DULL	13	16	5	10
PERCEIVED USE OF TALENTS:				
FAIRLY WELL TO PERFECT	81	72	73	81
NONE TO VERY LITTLE	18	28	27	18
PERCEIVED USE OF TRAINING:				
FAIRLY WELL TO PERFECT	87	71	59	68
NONE TO VERY LITTLE	12	29	41	32
SENSE OF ACCOMPLISHMENT FROM JOB:				
SATISFIED	66	64	77	75
NEUTRAL	17	15	14	6
DISSATISFIED	16	21	9	18
REENLISTMENT INTENTIONS:				
YES OR PROBABLY YES	61	69	77	75
NO OR PROBABLY NO	36	27	18	21
WILL RETIRE	2	3	5	4

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 23 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2A1X7 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	GROUND MAINT (STG117) (N=32)	AIRBORNE MAINT (STG066) (N=171)	EC-130 RIVET FIRE (STG229) (N=47)	SUPERVISORS (STG041) (N=184)	INSTRUCTORS (STG132) (N=36)
EXPRESSED JOB INTEREST:					
INTERESTING	50	82	91	78	81
SO-SO	25	11	6	16	11
DULL	25	7	2	6	8
PERCEIVED USE OF TALENTS:					
FAIRLY WELL TO PERFECT	69	84	87	81	83
NONE TO VERY LITTLE	31	15	11	19	17
PERCEIVED USE OF TRAINING:					
FAIRLY WELL TO PERFECT	41	67	79	65	81
NONE TO VERY LITTLE	59	33	21	34	19
SENSE OF ACCOMPLISHMENT FROM JOB:					
SATISFIED	56	77	79	76	81
NEUTRAL	16	9	11	12	6
DISSATISFIED	28	13	11	13	14
REENLISTMENT INTENTIONS:					
YES OR PROBABLY YES	66	77	77	73	89
NO OR PROBABLY NO	28	19	19	7	11
WILL RETIRE	3	4	4	20	0

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

APPENDIX A

SELECTED REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF CAREER LADDER JOBS

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TABLE A1

POD MAINTENANCE CLUSTER
NUMBER OF MEMBERS: 163 STG149

TASKS		PERCENT MEMBERS PERFORMING
F260	Inventory CTKs	94
F288	Perform soldering tasks	93
F296	Practice electrostatic discharge (ESD) procedures	90
F283	Perform periodic inspections of EW equipment	87
F340	Safety wire units	86
P979	Inspect ASE, ILSE, or SASE	85
F314	Remove or replace EW radomes	85
F276	Perform corrosion control on EW equipment	77
P1010	Troubleshoot ASE, ILSE, or SASE	77
P971	Clean and lubricate ASE, ILSE, or SASE	76
F300	Program EW systems	74
P983	Operationally check ASE, ILSE, or SASE	73
F341	Secure classified property	72
P998	Remove or replace ASE, ILSE, or SASE SRUs or components	72
F328	Remove or replace switches	72
P958	Align automatic support equipment (ASE), intermediate level support equipment(ILSE), or semiautomatic support equipment(SASE)	70
F239	Clean air filters	69
S1093	Create workcenter events	67
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	67
F292	Perform visual inspections of antennas	66
S1080	Access automated maintenance data collection systems menus and data screens	64
F336	Research TO wiring or circuit diagrams	64
E223	Research federal logistic (FEDLOG) files for supply requisition data	63
F310	Remove or replace coaxial cables or connectors	63
F273	Pack or unpack equipment	63
F253	Inspect coaxial cables	62
F327	Remove or replace relays	61
E175	Coordinate with base supply on obtaining parts	60
F256	Inspect test bench mock-ups	60

TABLE A2

AN/ALR-69 AND AN/ALE-40 MAINTENANCE CLUSTER
NUMBER OF MEMBERS: 360 STG108

TASKS		PERCENT MEMBERS PERFORMING
F288	Perform soldering tasks	90
F340	Safety wire units	87
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	83
F296	Practice electrostatic discharge (ESD) procedures	83
F283	Perform periodic inspections of EW equipment	82
F307	Remove or replace antennas	82
F310	Remove or replace coaxial cables or connectors	82
F300	Program EW systems	80
F341	Secure classified property	80
F292	Perform visual inspections of antennas	79
F236	Apply power to aircraft	79
F273	Pack or unpack equipment	78
F306	Remove or replace aircraft access panels	78
F352	Transport classified equipment	77
F336	Research TO wiring or circuit diagrams	76
F253	Inspect coaxial cables	75
F276	Perform corrosion control on EW equipment	74
F329	Remove or replace video splices	73
J577	Operationally check AN/ALE-40 dispensing systems	73
F304	Remove or install equipment to facilitate other maintenance	73
F354	Transport test equipment or units	72
S1093	Create workcenter events	71
F246	Fabricate coaxial cables	71
F258	Interconnect test equipment with LRUs	71
F271	Operationally check EW system displays or monitors	70
F314	Remove or replace EW radomes	69
F353	Transport EW systems	68
F316	Remove or replace fuses or circuit breakers	68
F367	Upload or download EW pods	68
J591	Remove or replace AN/ALE-40 dispensing system LRUs	68
S1080	Access automated maintenance data collection systems menus and data screens	67

TABLE A3

SENSOR MAINTENANCE JOB
NUMBER OF MEMBERS: 22 STG224

TASKS		PERCENT MEMBERS PERFORMING
F260	Inventory CTKs	100
F307	Remove or replace antennas	95
F261	Key encryption systems	91
F306	Remove or replace aircraft access panels	86
F315	Remove or replace fiber-optic cables	86
F291	Perform transmission line checkouts, such as voltage standing wave ratio (VSWR) or frequency responses	86
F296	Practice electrostatic discharge (ESD) procedures	86
F288	Perform soldering tasks	86
F236	Apply power to aircraft	82
O905	Troubleshoot data link systems on aircraft	82
F292	Perform visual inspections of antennas	82
O904	Troubleshoot data link system LRUs	82
F310	Remove or replace coaxial cables or connectors	82
F253	Inspect coaxial cables	82
F341	Secure classified property	77
F237	Brief or debrief flight crews	77
F294	Position nonpowered or powered support equipment to aircraft	77
F247	Fabricate fiber-optic cables	77
F239	Clean air filters	77
F304	Remove or install equipment to facilitate other maintenance	73
O868	Remove or replace data link system LRUs	73
O957	Upload or download data link systems	68
O815	Inspect data link systems	68
O839	Perform minimum performance checks on data link systems	68
F245	Fabricate antenna cables	68
F246	Fabricate coaxial cables	68
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	68
F312	Remove or replace encryption secure system LRUs	68
F273	Pack or unpack equipment	68
R1078	Walk wings or tails during aircraft towing operations	68
F297	Preflight or postflight antennas	64

TABLE A4

BOMBER EW MAINTENANCE CLUSTER
NUMBER OF MEMBERS: 77 STG138

TASKS		PERCENT MEMBERS PERFORMING
L697	Remove or replace AN/ALQ-155 semiautomatic system LRUs	94
L682	Operationally check AN/ALQ-172 automatic systems	92
H428	Operationally check AN/ALR-20A receiving systems	92
L681	Operationally check AN/ALQ-155 semiautomatic systems	91
H429	Operationally check AN/ALR-46/46A receiving systems	91
F236	Apply power to aircraft	90
F292	Perform visual inspections of antennas	87
I524	Remove or replace AN/ALT-16A transmitting system LRUs	87
L715	Troubleshoot AN/ALQ-155 semiautomatic systems on aircraft	86
F271	Operationally check EW system displays or monitors	84
F263	Load or unload chaff in magazines	84
I511	Operationally check AN/ALT-16A transmitting systems	84
I527	Remove or replace AN/ALT-32 transmitting system LRUs	84
I545	Troubleshoot AN/ALT-32 transmitting systems on aircraft	84
L718	Troubleshoot AN/ALQ-172 automatic systems on aircraft	83
H447	Remove or replace AN/ALR-20A receiving system LRUs	83
F340	Safety wire units	83
L695	Remove or replace AN/ALQ-153 semiautomatic system LRUs	83
L680	Operationally check AN/ALQ-153 semiautomatic systems	83
J597	Troubleshoot AN/ALE-20 dispensing systems on aircraft	83
J574	Operationally check AN/ALE-20 dispensing systems	83
I513	Operationally check AN/ALT-32 transmitting systems	83
F363	Upload or download aircraft chaff magazines	82
L712	Troubleshoot AN/ALQ-153 semiautomatic systems on aircraft	82
J585	Remove or replace AN/ALE-20 dispensing system LRUs	82
L693	Remove or replace AN/ALQ-122 semiautomatic system LRUs	82
J575	Operationally check AN/ALE-24 dispensing systems	81
F311	Remove or replace desiccants	81
H416	Inspect AN/ALR-20A receiving system LRUs	81
I539	Troubleshoot AN/ALT-16A transmitting systems on aircraft	81
H449	Remove or replace AN/ALR-46/46A receiving system LRUs	79
F358	Troubleshoot EW systems displays or monitors on aircraft	79
H417	Inspect AN/ALR-46/46A receiving system LRUs	79

TABLE A5

GROUND MAINTENANCE CLUSTER
NUMBER OF MEMBERS: 32 STG117

TASKS		PERCENT MEMBERS PERFORMING
Q1022	Assemble or disassemble DGSs	88
Q1045	Reconfigure DGSs for deployments	88
O869	Remove or replace DGS LRUs	88
F260	Inventory CTKs	88
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	84
O861	Perform premission or postmission checks on DGSs	81
F273	Pack or unpack equipment	81
Q1037	Load or unload shelters or DGSs	78
O796	Align deployable ground stations (DGSs)	78
F239	Clean air filters	78
F296	Practice electrostatic discharge (ESD) procedures	75
O816	Inspect DGSs	75
Q1050	Tow shelters	75
O906	Troubleshoot DGS LRUs	72
F305	Remove or replace air filters	72
F321	Remove or replace multiconductor cables or connectors	72
F318	Remove or replace magnetic media	69
Q1047	Repair shelters	69
F253	Inspect coaxial cables	69
F315	Remove or replace fiber-optic cables	69
O840	Perform minimum performance checks on DGSs	66
F288	Perform soldering tasks	66
Q1026	Complete mobility processing checklists	63
Q1030	Determine shelter weight and center of balance	63
F320	Remove or replace mounting brackets or fixtures	63
O862	Perform system initialization (Boot-Up)	59
E193	Maintain CTKs	59
F310	Remove or replace coaxial cables or connectors	59
P988	Operationally check disc drives	56
O898	Repair DGS LRUs	56
P986	Operationally check computer peripheral terminal keyboards	56
F324	Remove or replace printed circuit board components	56

TABLE A6

AIRBORNE MAINTENANCE CLUSTER
NUMBER OF MEMBERS: 171 STG066

TASKS		PERCENT MEMBERS PERFORMING
F288	Perform soldering tasks	93
F0296	Practice electrostatic discharge (ESD) procedures	88
F260	Inventory CTKs	86
F240	Clean tape heads	86
F316	Remove or replace fuses or circuit breakers	85
E172	Complete field maintenance reports (FMRs)	81
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	81
F310	Remove or replace coaxial cables or connectors	80
F253	Inspect coaxial cables	79
F341	Secure classified property	78
F246	Fabricate coaxial cables	77
F336	Research TO wiring or circuit diagrams	75
F272	Operationally check systems software	71
F239	Clean air filters	71
N773	Operationally check analog recorders	70
N774	Operationally check digital recorders	70
F328	Remove or replace switches	68
F327	Remove or replace relays	66
A6	Determine work priorities	65
F242	Degauss tape heads	63
F337	Research TOs to identify components or items of equipment	63
N776	Operationally check video recorders	62
F305	Remove or replace air filters	61
F321	Remove or replace multiconductor cables or connectors	61
N786	Troubleshoot analog recorders on aircraft	61
F307	Remove or replace antennas	61
D124	Conduct OJT	60
N768	Inspect analog recorders	60
F318	Remove or replace magnetic media	59
F236	Apply power to aircraft	59
F352	Transport classified equipment	59
N769	Inspect digital recorders	59
F292	Perform visual inspections of antennas	58

TABLE A7

EC-130 RIVET FIRE JOB
NUMBER OF MEMBERS: 47 STG229

TASKS		PERCENT MEMBERS PERFORMING
H461	Remove or replace RIVET FIRE analysis system LRUs	100
H459	Remove or replace RIVET FIRE acquisition system LRUs	100
H487	Troubleshoot RIVET FIRE acquisition systems on aircraft	100
I531	Remove or replace RIVET FIRE exciter system LRUs	100
I533	Remove or replace RIVET FIRE transmitting system LRUs	100
H434	Operationally check RIVET FIRE analysis system LRUs	98
H433	Operationally check RIVET FIRE acquisition system LRUs	98
I551	Troubleshoot RIVET FIRE exciter systems on aircraft	98
O944	Troubleshoot RIVET FIRE equipment on aircraft	96
H490	Troubleshoot RIVET FIRE analysis systems on aircraft	96
F236	Apply power to aircraft	94
F260	Inventory CTKs	94
H485	Troubleshoot RIVET FIRE acquisition system LRUs	91
I549	Troubleshoot RIVET FIRE exciter system LRUs	91
M750	Remove or replace SILO system LRUs	91
O945	Troubleshoot RIVET FIRE high band-1 system LRUs	91
O838	Operationally check RIVET FIRE systems on aircraft	89
H488	Troubleshoot RIVET FIRE analysis system LRUs	89
I509	Inspect RIVET FIRE transmitting system LRUs	89
F292	Perform visual inspections of antennas	89
I508	Inspect RIVET FIRE exciter system LRUs	87
M739	Operationally check SILO system LRUs	85
M761	Troubleshoot SILO system LRUs	85
O852	Perform minimum performance checks on RIVET FIRE systems	83
H423	Inspect RIVET FIRE analysis system LRUs	83
H422	Inspect RIVET FIRE acquisition system LRUs	83
O864	Remove or replace AN/ALQ-173 high band-1 system LRUs	83
I514	Operationally check RIVET FIRE exciter system LRUs	81
I552	Troubleshoot RIVET FIRE transmitting system LRUs	81
F319	Remove or replace minor hardware, such as light bulbs, screws, or knobs	80
H462	Remove or replace RIVET FIRE analysis system SRUs or components	79
F341	Secure classified property	79

TABLE A8

SUPERVISOR CLUSTER
NUMBER OF MEMBERS: 184 STG041

TASKS		PERCENT MEMBERS PERFORMING
A20	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	91
A6	Determine work priorities	86
A3	Coordinate work activities with other sections or agencies	85
B40	Counsel subordinates on personal or military matters	82
C113	Write EPRs	79
C68	Conduct performance feedback worksheet sessions	76
A16	Establish performance standards for subordinates	72
C93	Evaluate personnel for compliance with performance standards	72
A34	Schedule work assignments and priorities	71
B61	Orient newly assigned personnel	70
B59	Interpret policies, directives, or procedures for subordinates	68
C114	Write recommendations for awards or decorations	68
A19	Establish work schedules	68
A25	Plan work assignments	68
C104	Inspect personnel for compliance with military standards	65
A33	Schedule leaves or temporary duty (TDY)	65
A5	Determine requirements for space, equipment, or supplies, other than mission requirements	65
A23	Plan or prepare briefings	63
A4	Determine personnel requirements, other than mission requirements	63
A1	Assign personnel to duty positions	61
A11	Develop work methods or procedures	60
B65	Supervise Electronic Warfare Systems Journeymen (AFSC 2A157)	59
B37	Compile information for reports or staff studies	59
C74	Evaluate completed maintenance	58
A10	Develop self-inspection programs	57
A2	Assign sponsors for newly assigned personnel	54
B38	Conduct briefings	54
B64	Supervise Electronic Warfare Systems Craftsmen (AFSC 2A177)	52

TABLE A9

INSTRUCTOR JOB
NUMBER OF MEMBERS: 36 STG132

TASKS		PERCENT MEMBERS PERFORMING
D117	Administer tests	100
D116	Administer student critiques	94
D160	Prepare lesson plans	92
D127	Counsel trainees on training progress	92
D137	Develop training aids	92
D165	Write test questions	92
D163	Score tests	89
D125	Conduct resident course classroom training	86
D131	Develop course curricula, such as plans of instruction (POI), or specialty training standards (STSs)	86
D133	Develop performance tests	78
D144	Evaluate training materials or aids	75
B40	Counsel subordinates on personal or military matters	75
A20	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	72
D122	Complete training evaluation forms	72
D152	Maintain training records, charts, or graphs	72
D118	Advise unit staff personnel on training matters	67
D145	Evaluate training methods or techniques	67
D126	Conduct safety or security training	67
D157	Prepare changes to course summary documents and course objective documents	67
D121	Complete student withdrawal or entry forms	64
D158	Prepare instruction training areas or facilities	64
D130	Determine resident course training requirements	61
F296	Practice electrostatic discharge (ESD) procedures	61
D143	Evaluate student questionnaires or critiques	61
D128	Counsel trainers or instructors	58
A23	Plan or prepare briefings	58
D161	Procure training aids, space, or equipment	56
D146	Evaluate training progress of resident course students	56
D132	Develop new equipment training programs	53
A3	Coordinate work activities with other sections or agencies	53